Inspection Date:	June 19, 2012
Start:	12:06 pm
Weather:	Sunny, 90s
Site:	Triad Hunter - WV DNR 1102, 1103, 1104
Location:	Lewis Wetzel Wildlife Management Area, Wetzel County, WV

The WV DNR 1102, 1103, 1104 Well Pad ("Site") is operated by Triad Hunter, LLC (Triad Hunter) and includes a well pad and associated access road. The Site is located in the Lewis Wetzel Wildlife Management Area (Lewis Wetzel WMA), Wetzel County, West Virginia, owned by the State of West Virginia, and managed by the West Virginia Division of Natural Resources (WV DNR). The Site is located adjacent to Buffalo Run, a USGS "blue-line" stream, which flows approximately 2 miles to South Fork Fishing Creek, then 5.6 miles to Fishing Creek, then 23.3 miles to the Ohio River. According to the Huntington District of the U.S. Army Corps of Engineers ("USACE"), Fishing Creek is considered navigable 7.4 miles above its mouth to the Ohio River. The distance from the Site to this TNW point is approximately 23.5 stream miles.

On June 19, 2012, the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) conducted a Clean Water Act Section 404 inspection at the Site. Individuals at the inspection included representatives from the EPA; West Virginia Department of Environmental Protection's (WVDEP) Environmental Enforcement and Oil & Gas offices; West Virginia Division of Natural Resources (WV DNR); Triad Hunter; and Triad Hunter's environmental consultants, URS. See sign-in sheet.

The Site was constructed in 2008 or 2009 by PetroEdge Resources (PetroEdge) or Post Rock Energy Corporation (Post Rock). In late 2010, Triad Hunter acquired the mineral rights to the Site and drilled the three wells.

<u>UNT to Buffalo Run (TH-P2-UNT1)</u>
TH-P2-UNT1 is an UNT to Buffalo Run and flows east towards the well pad. The stream was flowing at the time of the inspection and scored as perennial using both the NC and OH methods. Watershed area upstream of the sampled reach is approximately 6 acres, which would be expected to support at least intermittent flow in this ecoregion. Five total genera and three EPT genera were identified, indicating moderate diversity and abundance, and a headwater, spring fed stream. Crayfish and salamanders were observed in the stream. Some flow had been piped under the well pad, entering a culvert on the west side of the pad. Some flow had also been rerouted into a ditch around the southern edge of the well pad. Approximately 250-400 lf of this UNT had been impacted.

<u>UNT to Buffalo Run (TH-P2-UNT2)</u>
TH-P2-UNT2 is an unnamed tributary to UNT1. The stream had subsurface flow with isolated pools (interstitial flow) at the time of the inspection. The stream was scored as intermittent using the NC method and perennial using the OH method (due to the high percentage of larger substrates). Watershed area upstream of the sampled reach is approximately 6 acres, which

would be expected to support at least intermittent flow in this ecoregion. Taxa identified included stonefly and dobsonfly larvae but macroinvertebrate abundance and diversity was weak. Crayfish and salamanders were observed in the stream. UNT2 appeared slightly dryer than UNT1, but is at least intermittent and may be perennial in normal or wet years.

Buffalo Run

Seven pipes had been installed in the channel of Buffalo Run. The channel was approximately 45 lf wide at this location. Fill material, consisting of gravel, had been placed around the pipes to create an access road to the well pad. The installed pipes were undersized, and thus inadequate to carry flow. The crossing was also an impediment to aquatic life passage. According to the Corps, the crossing did not comply with Nationwide Permit 14. In addition to the fill associated with the stream crossing, 100+ lf of gravel wash was observed downstream of the crossing.

During EPA's January 18, 2012 inspections in this area, gravel appeared to have been washed away as the pipes were more exposed.

Access Road Crossing of Buffalo Run:

Piping and Diversion of UNT to Buffalo Run:

Upstream, Undisturbed Reach of UNT to Buffalo Run (TH-P2-UNT1):

Diversion of UNT to Buffalo Run (TH-P2-UNT1) around well pad (west of well pad):

Diversion of UNT to Buffalo Run (TH-P2-UNT1) around well pad (south of well pad):